

experiment it was found that an interruption to the continuance of the current, even for a few seconds, is sufficient to destroy the whole of the product which had been the result of the previous long-continued action ; the spongy ammoniacal amalgam being instantly decomposed, and the ammonia formed being dissolved in the surrounding fluid.

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February 9, 1837.

FRANCIS BAILY, Esq., V. P. and Treasurer, in the Chair.

Edmund Halswell, Esq., who, at the last Anniversary, had ceased to be a Fellow, from the non-payment of his annual contribution, was, at this meeting, readmitted by ballot into the Society, agreeably to the provision of the statutes.

A paper was read, in part, entitled, "On the Elementary Structure of Muscular Fibre of Animal and Organic Life." By Frederick Skey, Esq., Assistant Surgeon to St. Bartholomew's Hospital. Communicated by John Bostock, M.D., F.R.S.

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February 16, 1837.

The Right Honourable the EARL OF BURLINGTON, V.P., in the Chair.

The reading of a paper entitled, "On the Elementary Structure of Muscular Fibre of Animal and Organic Life." By Frederick Skey, Esq., Assistant Surgeon to St. Bartholomew's Hospital. Communicated by John Bostock, M.D., F.R.S., was resumed and concluded.

The author concludes, from his microscopic examinations of the structure of muscular fibres, that those subservient to the functions of animal life have, in man, an average diameter of one 400dth of an inch, and are surrounded by transverse circular striæ varying in thickness, and in the number contained in a given space. He describes these striæ as constituted by actual elevations on the surface of the fibre, with intermediate depressions, considerably narrower than the diameter of a globule of the blood. Each of these muscular fibres, of which the diameter is one 400dth of an inch, is divisible into bands or fibrillæ, each of which is again subdivisible into about one hundred tubular filaments, arranged parallel to one another, in a longitudinal direction, around the axis of the tubular fibre which they compose, and which contains in its centre a soluble gluten. The partial separation of the fibrillæ gives rise to the appearance of broken or interrupted circular striæ, which are occasionally seen. The diameter of each filament is one 16,000dth of an inch, or about a third part of that of a globule of the blood. On the other hand, the muscles of organic life are composed, not of fibres similar to those above described, but of filaments only ; these filaments being interwoven with each other in irregularly disposed lines of various thickness ; having for the most part a longitudinal direction, but forming a kind of untraceable network. They are readily distinguishable from tendinous fibres, by the

filaments of the latter being uniform in their size, and pursuing individually one unvarying course, in lines parallel to each other. The fibres of the heart appear to possess a somewhat compound character of texture. The muscles of the pharynx exhibit the character of animal life; while those of the œsophagus, the stomach, the intestines, and the arterial system, possess that of inorganic life. The determination of the exact nature of the muscular fibres of the iris presented considerable difficulties, which the author has not yet been able satisfactorily to overcome.

A paper was also in part read, entitled, "On the Function of the Medulla Oblongata and Medulla Spinalis, and on the Excito-motory System of Nerves." By Marshall Hall, M.D., F.R.S. L. and E., &c.

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February 23, 1837.

The Right Honourable the EARL OF BURLINGTON, V.P., in the Chair.

Richard Partridge, Esq., was elected a Fellow of the Society.

The reading of Dr. Marshall Hall's paper was resumed, but not concluded.

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March 2, 1837.

WILLIAM LAWRENCE, Esq., V.P., in the Chair.

The reading of a paper, entitled, "On the Function of the Medulla Oblongata and Medulla Spinalis, and on the Excito-motory System of Nerves." By Marshall Hall, M.D., F.R.S., L. and E., &c., was resumed and concluded.

The author begins by observing that a former memoir of his, entitled, "On the Reflex Function of the Medulla Oblongata and Medulla Spinalis," published in the Philosophical Transactions for 1833, has been translated into German, and favourably spoken of by Professor Muller, of Berlin. He states that his object in the present paper is to unfold what he calls a great principle in physiology; namely, that of the special function, and the physiological and pathological action and reactions of the true spinal marrow, and of the excito-motory nerves. The two experiments which he regards as affording the type of those physiological phenomena and pathological conditions, which are the direct effects of causes acting in the spinal marrow, or in the course of the motor nerves, are the following:—1. If a muscular nerve be stimulated, either mechanically by the forceps, or by means of galvanism passed transversely across its fibres, the muscle or muscles to which it is distributed are excited to contract.—2. The same result is obtained when the spinal marrow itself is subjected to the agency of a mechanical or galvanic stimulus. The following experiment, on the other hand, presents the type of all the actions of the reflex func-